THE ASTROPHYSICAL JOURNAL

Founded in 1895 by George E. Hale and James E. Keeler

HELMUT A. ABT
Editor-in-Chief
Kitt Peak National Observatory

A. DALGARNO
Letters Editor
Center for Astrophysics

EUGENE H. AVRETT
Deputy Letters Editor
Center for Astrophysics

F. DAVID A. HARTWICK
Associate Letters Editor
University of Victoria

MICHAEL JURA
Associate Letters Editor
University of California, Los Angeles

EDWIN E. SALPETER
Associate Letters Editor
Cornell University

AAS PUBLICATIONS BOARD

JAMES W. LIEBERT (1994–1996), *Chairperson*
University of Arizona

KRISTEN SELLGREN (1993–1996)
Ohio State University

JAMES J. CONDON (1994–1997)
NRAO, Charlottesville, Virginia

JOHN A. NOUSEK (1994–1997)
Pennsylvania State University

HUGH M. VAN HORN (1995–1998)
National Science Foundation

MOSHE ELITZUR (1995–1998)
University of Kentucky

DIMITRI M. MIHALAS (1996–1999)
University of Illinois

Production Manager: KIM LANGFORD *Publication Manager:* JULIE STEFFEN *Chief Manuscript Editor:* GERALDINE BRADY
Manuscript Editors: WALTER G. GLASCOFF III, BETH GARRISON, KAREN LESLIE BOYD, THAD A. DORIA, GREG M. HAJEK, PAUL RUICH, JOHN MYER, ELIZABETH P. MCNULTY, AND DAVID B. WITONSKY
Electronic Publishing Coordinator: RICK SCHOEN
Production Staff: CINDY GARRETT, CAROLYN B. CHMIEL, KELLY PATRICK CRONIN, AND SARA ZIMMERMAN
Cambridge Editorial Office: MARY BURGESS AND MARY GUILLEMETTE

VOLUME 459, PART 2
1996 MARCH 1 AND MARCH 10

PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS FOR
THE AMERICAN ASTRONOMICAL SOCIETY

© 1996 BY THE AMERICAN ASTRONOMICAL SOCIETY. ALL RIGHTS RESERVED.
PUBLISHED THREE TIMES A MONTH

COMPOSED BY CADMUS JOURNAL SERVICES, RICHMOND, VIRGINIA, U.S.A.
PRINTED BY CAPITAL CITY PRESS, INC., MONTPELIER, VERMONT, U.S.A.

THE ASTROPHYSICAL JOURNAL LETTERS

CONTENTS OF VOLUME 459, PART 2

1996 MARCH 1, Number 1

	Page	Fiche
CONFIRMATION OF HIGH DEUTERIUM ABUNDANCE IN QUASAR ABSORBERS *M. Rugers & C. J. Hogan*	L1	59-D1
CONTRIBUTION OF BREMSSTRAHLUNG EMISSION FROM Lyα CLOUDS TO THE MICROWAVE BACKGROUND FLUCTUATIONS *Abraham Loeb*	L5	59-D9
A POSSIBLE X-RAY DETECTION OF THE BINARY MILLISECOND PULSAR J1012+5307 *Jules P. Halpern*	L9	59-E3
SYNCHROTRON MODELS FOR X-RAYS FROM THE SUPERNOVA REMNANT SN 1006 *Stephen P. Reynolds*	L13	59-E10
ON THE NATURE OF THE OUTER RINGS AROUND SN 1987A *N. Panagia, S. Scuderi, R. Gilmozzi, P. M. Challis, P. M. Garnavich, & R. P. Kirshner*	L17	59-F5
HYDROGEN IN THE SPECTRUM OF SN 1990M: NO MORE? *Massimo Della Valle, Stefano Benetti, & Nino Panagia*	L23	59-G3
THE INTERMEDIATE-MASS POPULATION IN THE CORE OF THE R136 STAR CLUSTER *Deidre A. Hunter, Earl J. O'Neil, Jr., Roger Lynds, Edward J. Shaya, Edward J. Groth, & Jon A. Holtzman*	L27	59-G10
EXACT ANALYTIC SOLUTIONS FOR STELLAR WIND BOW SHOCKS *Francis P. Wilkin*	L31	60-A5
GIANT PLANETS AT SMALL ORBITAL DISTANCES *T. Guillot, A. Burrows, W. B. Hubbard, J. I. Lunine, & D. Saumon*	L35	60-A13
SIGNATURES OF GLOBAL MODE ALFVÉN RESONANCE HEATING IN CORONAL LOOPS *L. Ofman, J. M. Davila, & T. Shimizu*	L39	60-B7
ERRATA		
THE CURRENT STAR FORMATION RATE OF THE LOCAL UNIVERSE *J. Gallego, J. Zamorano, A. Aragón-Salamanca, & M. Rego*	L43	60-C1
MAGNETOCENTRIFUGALLY DRIVEN FLOWS FROM YOUNG STARS AND DISKS. V. ASYMPTOTIC COLLIMATION INTO JETS *Frank H. Shu, Joan Najita, Eve C. Ostriker, & Hsien Shang*	L43	60-C1
INSTRUCTIONS TO AUTHORS OF LETTERS, AND RECENT LETTERS ABSTRACTS AND OTHER BIBLIOGRAPHICAL SERVICES	*Inside Back Cover*	
INSTRUCTIONS FOR ELECTRONIC MANUSCRIPT SUBMISSION	*Back Cover*	

1996 MARCH 10, Number 2

	Page	Fiche
HIGH-z CONSTRAINTS ON THE COSMIC STRING MODELS WITH HOT DARK MATTER *Petri Mähönen*	L45	68-B1
LOOKING FOR THE SUNYAEV-ZELDOVICH EFFECT TOWARD DISTANT *ROSAT* CLUSTERS OF GALAXIES *P. Andreani, L. Pizzo, G. Dall'Oglio, N. Whyborn, H. Böhringer, P. Shaver, R. Lemke, A. Otàrola, L.-Å. Nyman, & R. Booth*	L49	68-B8

CONTENTS

	Page	Fiche
DETECTION OF A Lyα EMISSION-LINE COMPANION TO THE $z = 4.69$ QUASAR BR 1202−0725 *Esther M. Hu, Richard G. McMahon, & Eiichi Egami*	L53	68-C1
HUBBLE SPACE TELESCOPE SPECTROSCOPIC EVIDENCE FOR A $2 \times 10^9\ M_\odot$ BLACK HOLE IN NGC 3115 *John Kormendy, Ralf Bender, Douglas Richstone, E. A. Ajhar, Alan Dressler, S. M. Faber, Karl Gebhardt, Carl Grillmair, Tod R. Lauer, & Scott Tremaine*	L57	68-C12
Si X FORBIDDEN EMISSION IN NGC 1068 AND NGC 7469 *Rodger I. Thompson*	L61	D6
THE MAIN-SEQUENCE STARS OF THE SAGITTARIUS DWARF GALAXY *G. G. Fahlman, G. Mandushev, H. B. Richer, I. B. Thompson, & A. Sivaramakrishnan*	L65	68-D12
HIGH-VELOCITY MOLECULAR GAS IN THE GALACTIC CENTER RADIO LOBE *Yoshiaki Sofue*	L69	68-E6
ABSOLUTE PROPER MOTIONS TO $B \sim 22.5$: LARGE-SCALE STREAMING MOTIONS AND THE STRUCTURE AND ORIGIN OF THE GALACTIC HALO *Steven R. Majewski, Jeffrey A. Munn, & Suzanne L. Hawley*	L73	68-F1
DELAYED MeV–GeV GAMMA-RAY PHOTONS IN GAMMA-RAY BURSTS: AN EFFECT OF ELECTROMAGNETIC CASCADES OF VERY HIGH ENERGY GAMMA RAYS IN THE INFRARED/MICROWAVE BACKGROUND *L. X. Cheng & K. S. Cheng*	L79	68-F9
PULSAR-WIND ORIGIN OF COSMIC-RAY POSITRONS *X. Chi, K. S. Cheng, & E. C. M. Young*	L83	68-G2
DETERMINATION OF THE LOW-MASS STAR MASS FUNCTION IN THE GALACTIC DISK *D. Méra, G. Chabrier, & I. Baraffe*	L87	68-G9
MASS-LUMINOSITY RELATIONSHIP AND LITHIUM DEPLETION FOR VERY LOW MASS STARS *Gilles Chabrier, Isabelle Baraffe, & Bertrand Plez*	L91	69-A2
DETECTION OF STRONG MAGNETIC FIELDS ON M DWARFS *Christopher M. Johns-Krull, and, & Jeff A. Valenti*	L95	69-A9
DOPPLER TOMOGRAPHY OF ACCRETION DISKS IN ALGOL BINARIES *Geary E. Albright & Mercedes T. Richards*	L99	69-B3
CONVECTION: PERIODIC DUE TO *r*-MODES *Charles L. Wolff*	L103	69-B11
DETECTION OF SULFUR MONOXIDE IN IO'S ATMOSPHERE *E. Lellouch, D. F. Strobel, M. J. S. Belton, M. E. Summers, G. Paubert, & R. Moreno*	L107	69-C4
ERRATUM	L111	69-C11
MULTIWAVELENGTH OBSERVATIONS OF MARKARIAN 421 DURING A TEV/X-RAY FLARE *D. J. Macomb, C. W. Akerlof, H. D. Aller, M. F. Aller, D. L. Bertsch, F. Bruhweiler, J. H. Buckley, D. A. Carter-Lewis, M. F. Cawley, K.-P. Cheng, C. Dermer, D. J. Fegan, J. A. Gaidos, W. K. Gear, C. R. Hall, R. C. Hartman, A. M. Hillas, M. Kafatos, A. D. Kerrick, D. A. Kniffen, Y. Kondo, H. Kubo, R. C. Lamb, F. Makino, K. Makishima, A. Marscher, J. McEnery, I. M. McHardy, D. I. Meyer, E. M. Moore, E. Ramos, E. I. Robson, H. J. Rose, M. S. Schubnell, G. Sembroski, J. A. Stevens, T. Takahashi, M. Tashiro, T. C. Weekes, C. Wilson, & J. Zweerink*		
INSTRUCTIONS TO AUTHORS OF LETTERS, AND RECENT LETTERS ABSTRACTS AND OTHER BIBLIOGRAPHICAL SERVICES	*Inside Back Cover*	
INSTRUCTIONS FOR ELECTRONIC MANUSCRIPT SUBMISSION	*Back Cover*	